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ORIGINAL ARTICLES.

Renal Calculus.

BY O. J. FURST, M.D., PEABODY, KAS.

Read before the South Kansas Medical Society at its meeting in Arkansas City November 4.

Mr. President and members of the South Kansas Medical Society—I wish to call your attention for a short time to a disease that is not infrequent in general practice, although cases similar to the one to be reported are rather rare.

Calculi of the urinary system are known as renal or pelvic, usually found in one kidney alone, ureter, bladder or vesical and urethral, according to the location in which found.

Stones in the kidneys are known as calculi and gravel, according to the size.

Gravel are minute solid particles, generally of uric acid, and are found in great numbers—I believe as high as 1,000 distinct stones having been found in one kidney.

In renal calculi there may be one or more stones of large size; the largest I find recorded is one of Gee's cases reported by Eichhorst, of Zurich, in which the stone weighed 36 ounces.

The composition of the stones may be simple or complex, according to the number of constituents of which they are composed, but are generally more complex than vesical calculi.

Dickinson, in his work on "Renal and Urinary Affections," gives an analysis of 91 cases of renal calculi; of these, 52 are of simple composition and 39 compound; of the compound 22 consist of two, 10 of three, and 7 of four materials.

Uric acid forms most of the renal calculi, and in fact, forms the base of most all, especially the smaller ones, the mixture of the urine in which they are located having a great deal to do with the composition, some stones being composed of layers of different materials, as the layers of an onion.

Sir. H. Thompson says of calculi generally: "Nineteen out of twenty of such stones have uric acid for their basis, the remaining one in twenty being oxalate of lime."

Dickinson says: "From my facts it would appear that of simple calculi from the kidney about one-half are composed of uric acid or urates, while compound calculi more than half contain neither of these substances," yet according to his table uric acid or urates occurred in 64 cases out of 91, or in over two-thirds of the cases.

Uric acid stones generally have a yellowish, yellowish-red, or gravel color.

Calculi are found more frequent in childhood and old age, and oftener in the male than female in the proportion of three to one.

The causes of renal calculi are rather obscure, although most authors admit that they are more frequent in countries where the water is hard, especially water containing chalk and limestone.

The "American Text-Book of Surgery" says: "It is due to too great concentration of the urine from lack of exercise, high living, excess of meats and sugar in the food, and of malt or sweet effervescing liquids in the drink; it is also due to the gouty diathesis, to excessive sweating, and much more frequent than is supposed, to an insufficiency of water in the daily diet."

While you can find many authors who would deny most of this, I think in the main it is true, and that overdiet and intemperance in drinks, or anything that disturbs the

natural process of digestion, has a great deal to do with the cause. Of course, the more diluted you can keep the urine the less liability to deposit.

On these grounds, as claimed by some, they are more frequent in warmer climates on account of the constant perspiration keeping the urine constantly too much concentrated.

Eichhorst says: "Heredity plays a part in certain cases, and occasionally the stones even possess the same chemical constitution. This is particularly true with regard to cystine calculi. It is evidently the result of the inheritance of abnormal nutritive processes."

He also reports a case of a distinguished surgeon who could produce renal calculi in himself by drinking white wine.

We also have the records of surgeons as to the comparity rarity of renal calculi in the children of the rich, and commonest among those of the poor.

When uric acid outside of the body is subjected to an oxidizing agent, in the presence of water it is converted into urea, and it has been inferred from this that a similar action is constantly taking place in the body; that uric acid, in fact, is only a step between albumen and urea. Whether this is true, as far as I can learn, is not yet decided.

Flint says: "Uric acid in the urine uncombined must be regarded as a pathological condition; still, it is often in urinary deposits."

While we know that the smaller the quantity of urine the higher the specific gravity and consequently more solid material, we also know that the excrementitious constituents are formed in the system, and that the quantity is due to a want of proper assimilation or to some diseased condition of the system; and that urea is the most important constituent of the urine, and the quantity of uric acid like urea is increased by animal food and decreased by non-nitrogenous food—the average daily amount of uric acid being 8.5 grs.—which forms the greater part of all renal caculi.

We then might reason that any disturbance or hindrance to the proper excretion of urea—if uric acid is an intermediate change—by throwing too great a load upon the kidneys, so as to leave more than the normal amount of uric acid to be excreted as such, and it being nnsoluble in water, be left as a sediment in the pelvis of the kidney, as a nucleus for a beginning stone.

Benard's experiment by fixing a tube in the ureters of a living animal, shows that the flow alternates from one kidney to the other; while the urine flowed freely from one for from fifteen to thirty minutes, the other was comparatively slight and *vice versa* would give plenty of time for the settling of any sediment.

Symptoms of renal calculi vary probably more than any disease, and are very obscure in a great many cases; stones of enormous size being found after death without any renal disturbonce having been known to exist, and sometimes exist latent and apparently harmless.

They generally make themselves known by pain and bleeding, the pain usually being of a dull kind or rather sensitive of weight in the back and loins, or the pain may be of the most excruciating character with terrible suffering.

Dickinson says: "I had a patient in whom the chief pain caused by a concretion of this nature was in the sole of the foot and another in whom much of it was in this position; in the latter instance the sensation was as if the sole were raw and being rubbed with scouring paper. Another case is on record in which there was obstinate pain in the knee.

There is often some degree of tenderness over the kidney affected, and in some cases when there are two or more stones you can rub them together, causing a grating sensation.

Howslip reports a case of this kind in which the patient could appreciate this sensation on movement of the body.

He also observes: "That even as small calculus will in some cases excite a distinct impression as to its existence in the patient's mind."

Prout says: "Lithic acid stones produce the least pain; oxalate of lime, pain of more

acute kind; phosphates almost unremitting suffering."

Gastric troubles, in the form of nausea and vomiting, and sometimes nothing but irritation of the bladder exists.

It is a peculiar fact that calculi produce great mental depression and even insanity.

Some claim stone of the kidney can be diagnosed from general symptoms, and the finding of uric acid and its compounds in the urine, but we must all agree the best mode of diagnosing and determining the composition is the possession of the stone.

The treatment of renal calculi proper may be divided into palliative, solvent and surgical.

In latent stones where there are no urgent symptoms to call for means of radical relief, palliative treatment is probably the proper course to pursue; and to carry this out the habits should be sedentary, taking plenty of water, avoiding alcoholic drinks, fresh air, nourishing diet, and exercise, of which walking is the best as the jolting of riding cannot be tolerated; also general tonics and alkalies or acids, according to the reaction and constituents of the urine pointing to the character of the stone, and in this way cases may be carried for a long time.

Of solvents we know of none that can be relied upon, as the stone in the kidney is simply washed by the urine and not bathed, as in vessical calculi.

Phosphatic stones are soluble in acids; uric acids, urates and cystine, soluble in dilute alkalies; and oxalates are not soluble in anything which the system can tolerate.

It seems to be impossible to acidulate the urine so as to have any action upon the concretion; and so we have left the alkalies for solution of uric acid stones, which can be accomplished out of the body readily by salts of lithium and potash; but the system cannot tolerate the lithia salts in sufficient quantity for the length of time required to produce solution; and of potash, while it can be tolerated in most cases a long time it is very difficult to administer the proper amount and keep it so; for if the strength becomes too great there will be instead of solution an encrustation upon the stone.

We have left the surgical procedure in the way of nephrotomy and nephrectomy.

In cases in which palliative treatment has failed nephrotomy, in the light of modern surgery, seems to me should be attempted, and should in the majority of cases prove successful.

Nephrectomy should, I think, only be performed in cases where the conditions of the kidney would prove a source of continued trouble, or cases of urinary sinus following nephrotomy causing serious disturbance.

As this paper has now lengthened much more than expected, we will proceed to the report of the case in view.

July 5, 1893, I was called to see Mrs. L. C. H., aged 56; American, native of Kentucky; married, mother of five children; family history good.

From birth until 1870 she lived in Kentucky in a limestone country, but her husband states to me that the water was soft.

I found the lady very much emaciated with a look of having suffered extremely. Pulse 90 to 100, temperature 98° F. Said she had been taken about the last of May with pain in her bladder and the desire to urinate often, and had suffered excruciating pain in bladder which could only be relieved by hot damp clothes over the parts or a hot sitz bath; but she had become so weak she could no longer take the baths, and her physician having left the city she had sent for me to see if I could give her any relief.

Upon inquiry I found that she had been having these attacks for the last seven or eight years, three or four times a year; they would last from two or three days to a week, but had always been able to do her housework except during the periods of the attacks, until the beginning of this sickness.

She would sometimes have pain in her back, but not enough to cause any particular distress.

She was passing a small quantity of water every half to two hours.

Bladder very tender, no tenderness over kidneys, and she was so emaciated that you could take the kidneys up between your thumbs and fingers in examination.

Urine of a red color, specific gravity 1028,

acid reaction, containing some albumen, blood and pus, with some renal epithelium; the quantity of albumen was very slight, probably due to the blood.

I put her on an alkali with digitalis, also tonic and a little opiate to relieve pain.

She seemed to feel some better for two or three days, when she would get sick at her stomach, but only vomited a few times. Was compelled to sit up in bed on account of the pain being so great when she would lie down, also shortness of breath.

She remained in this condition until July 12, when suddenly she could not void her urine; I being out of town my colleague Dr. L. A. Buck, was called in. He drew the urine, and from that time on it had to be drawn every two to five hours according to the pain.

Dr. Buck was called in consultation the next day, and we then decided to wash out the bladder, which was done twice a day with a solution of boracic acid; the other treatment was continued.

The amount of blood in the urine kept increasing until it contained one-half or more blood.

But she continually grew weaker until July 21 death ended her sufferiug, her mind being clear until the end.

The case being very obscure we asked for an autopsy which was very kindly granted.

Upon opening the abdominal cavity the viscera were all found normal except the kidneys and bladder.

In the right kidney was found a solid calculus weighing 420 grs. The capsule from the numerous attacks of inflammation was adhered to the kidney and surrounding parts so that it was very difficult to remove without cutting, and in the efforts to remove the kidney the stone was broken, therefore is presented to you in two fragments, and on account of these extensive adhesions and the fact of there being no inflammation of the kidney or surroundings at the time, no tenderness could be elicited or the stone felt during life.

The kidney itself was dilated and the walls thinned, and some two or three places almost ulcerated through; the mucous membrane was thickened and pale and as smooth as though it had been polished, while the ureter was pervious the kidney was filled with watery pus. The left kidney appeared normal.

The bladder was very much contracted and the walls thickened so that it would not hold more than two ounces of fluid; it was also very much inflamed and adhered to the surrounding tissue except at the top so as to be unable of extension and contraction except in a very slight degree.

The mucous membrane was verv much thickened, inflamed and ulcerated; the inflammation extending through the muscular walls at many places, and at one place the ulcer had almost eaten through the walls.

The mucous membrane was covered with blood, mucus and pus, and was evidently the origin of the blood in the urine.

Society Meeting.

The Southeastern Kansas Medical Society was in secsion in Fort Scott Tuesday, December 4. There was a large attendance of physicians of both sexes, and papers were read by Dr. Markham, of Scammon, Dr. Jewell, of Moran, and Dr. J. B. Carver, of Fort Scott.

The officers for the ensuing year are:

President—Dr. A. C. Graves, Cherokee.

First Vice-President—Dr. Cole, of Girard.

Second Vice-President—Dr. Cummings, of Bronson.

Secretary—Dr. J. B. Carver, Fort Scott.

Treasurer—Dr. Doan, of Weir City.

DR. A. CROMBIE recommends chloride of calcium as a valuable remedy in the treatment of pneumonia. He claims that it reduces the temperature and arrests the morbid process. It should be given in 10 or 15 grain doses every four hours.

THERE is about one physician to every 650 inhabitants in the United States.

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Topeka, Kansas, Saturday, Dec. 8, 1894.

The M. V. M. Association.

The Mississippi Valley Medical Association met in Hot Springs, Ark., November 20 to 24. About three hundred physicians were in attendance. The profession at the Springs and the citizens treated the visiting physicians royally. We have never attended a medical meeting where there was more whole-souled hospitality extended. The Springs are a veritable Mecca, and the people and physicians are worthy the patronage they receive. There are some jerk-water doctors there, advertising fellows, having drummers on every train taking in the gullible. Physicians who send patients there should warn them against these vultures.

The honorable physicians at the Springs have no advance agents. no drummers, and make no charge in advance. The shysters invariably demand a fee in advance, for when found out they know that it is all they will get.

While there was not a great deal advanced that was new, yet the meeting was interesting and profitable, and the social features will long be remembered.

Things Said at the Hot Springs Meeting.

Dr. Barclay said that perverted nutrition always preceded disease, except, probably, in syphilis. Nutrition is life; perverted nutrition, perverted life. He laid great stress on care and proper living in the treatment of disease, and gave therapeutics the second place.

In chorea Frank R. Fry advocated the use of quinine. The action of quinine on the spinal cord as explained by Wood he thought was confirmed. Choreaic patients were not easily cinchonized, from 12 to 20 grains should be given each day. Chorea is probably infectious.

Dr. Hughes: I have seen many choreaic and similar affections for twenty years. These cases recover unless of four or five years duration. I do not believe that quinine acts in the way described by Wood. Clinical observation in the Mississippi Valley shows that there is a malarial element in almost every case, and hence the indication for quinine. Periodicity is not necessarily present in malarial poisoning.

Dr. Stuckey uses arsenic in chorea, mercury in syphilis and quinine in malaria. He gets good results from the bromide of gold and arsenic, also with the arsenite of strychnia. The minimum dose is the only dose in medicine.

It was suggested that in case an adherent prepuce was the exciting cause of chorea, that therapeutic agents would be of no

value. Where rheumatism was the exciting cause, salicylates would be indicated. It was also fuggested that disturbance of the encephalon would cause chorea, and that the arseniate of arsenic was of great value in the treatment of chorea—¾ to 1 grain being given at one dose.

Some one denominated reflex irritation as a fad, and that peripheral irritation would produce reflex symptoms but not a disease. The general opinion was to the contrary. That it produced defective enervation and this in turn might result in a lesion of the part.

WOUNDS.

Dr. Parker advocated the enlargement of open wounds in case of accidental injuries. By so doing a thorough knowledge of the extent of the injury could be learned and the wound cleansed and made aseptic. He prefers the chisel to the trephine in operating on the skull.

He summarized as follows in head injuries:

1. When in doubt make an exploratory incision.

2. If the wound is a penetrating one and small enlarge the incision.

3. In all cases operate if, from the character of the injury, there is danger of fissure.

4. If there is a piece of detached bone in position and healthy let it remain.

Exception was taken to this last proposition, and in skull injuries the concensus of opinion was to remove the detached plate of bone.

Ricketts prefers to make a longitudinal incision in brain injuries and prefers the chisel, gouge and hammer.

Dr. Norbury urged exploratory incision in case of head injuries, having seen serious results follow years afterwards, as demonstrated in the insane asylums.

Dr. Walker prefers the trephine but not so much exploration. He relies more on the constitutional disturbance, such as slow pulse. Pounding and chiseling is unsurgical.

HYPERTROPHIED PROSTATE.

Removal of the testicles was advocated for hypertrophied prostate gland. In the lower animals removal of the testes was invariably followed by atrophy of the prostate. Of the cases reported in man atrophy followed.

Dr. Ricketts asserted that a man should not be permitted, if he could, to beget a child after seventy years of age.

If that is true and the comparative safety in castrating a man, it would seem that the problem of hypertrophied prostate in the aged has been solved.

"It has been noted that in cases where one testicle had been removed atrophy of the prostate followed on that side. In the lower animals, in one case noted, the prostate atrophied within 40 days to one-fourth its original size.

TREPHINING IN MENINGITIS.

Some cases were reported where the fluids of the brain had been removed in cases of acute meningitis. None of the cases were successful but the operation was considered legitimate. It was thought best to remove the fluid on one side at a time. The shock would be less and the chances of recovery greater. The operation should be done as soon as pressure symptoms manifest themselves.

Since external drainage has not been successful drainage into the scalp was suggested.

Some objected to operating although pressure symptoms were manifest, from the fact that even in this condition many cases recovered, and the per cent. of recoveries after operating did not warrant such radical measures only in hopeless cases. It was said that the presence of meningitis always meant infection, and in external drainage that was the danger, but in scalp drainage

this was less likely to occur. The prevailing opinion was that trephining in acute meningitis should be done only where extraordinary symptoms or disturbance was present.

In fibroid uterus removal of the ovaries caused the uterus to atrophy. The prostate gland being an analogue of the uterus it was reasoned that removal of the testicles would cause the prostate to atrophy, which is a fact. It is found that in eunichs the prostate gland is atrophied.

It is not possible to tell the size of the prostate gland by digital examination. The surface alone can be felt and its thickness cannot be determined.

ORBITAL ABSCESS.

Dr. Holmes, of Cincinnati, gave some new points to us on orbital and nasal abscesses with the accessory cavities. It has been generally supposed that abscesses in these cavities, polypi and granular masses was the cause of brain abscess. He claims and demonstrated that in many of these cases they were the sequelæ to brain abscesses and disease of the accessory cavities. For example, he treated a case of nasal disease high up. The symptoms were not very grave and treatment of the nose gave some relief. To his surprise the patient soon died and post mortem examination showed that there was brain abscsss and the ethmoid bone was rotten, permitting him to push his finger down through it. In connection with nasal polypi and granular masses in the cavity, headaches are an important sign of brain involvement and of disease of the accessory sinuses.

It was suggested by another that in acute rhinitis the accessory sinuses were frequently involved, and that these colds were of more importance than generally supposed, even by the general practitioner because of the serious results. He thought that polypi were secondary in almost every case.

The nose has been regarded as but of little importance in brain disease, but the profession is finding out that this is a mistake. Proper treatment of the nasal cavities with their accessory sinuses will often avert insanity and fatal brain disease by drainage and disinfection, and in this way enable nature to perform a cure.

The Government Bath-house.

The Government has wisely and kindly provided a bath-house at Hot Springs free to the poor. But strange to say these poor unfortunates have to depend upon the gratuitous services of the profession for advice if they get any. We believe it is the duty of our Government and only a humane act to provide these people with a resident physician. From 200 to 400 of these creatures bathe each day in a pool probably 12x18 feet square, and although the water runs in and out constantly there is certainly danger of some of them contracting a worse disease than they are treating for. The poor rheumatic should not be permitted to bathe side by side with the syphilitic. These people deserve more protection than they receive. It is unfair for the physicians to have to give even a little of their time to the Government when it is amply able to pay some physician a fair salary to do good. It is said that no case of contagion has been reported from this common bathing. That may be true, but it is doubtful. There is no one to look after them, and we believe it is a constant menace. If it is true it is the strongest possible testimony in favor of dilution being sufficient to destroy the contagiousness of any virus or germ. So that if plenty of water is used even with diseased germs in it there is practically no danger. This water at the Springs in the common bath-house is evidently loaded with all kinds of germs and the people bathe in it their whole body, or what is left of it, with its denuded skin, old exposed sores, and the water becomes loaded with germs, and they

in turn come in contact with patients suffering with a different disease or with denuded skin, and yet no communication of disease follows. There is truth in the dilution theory and with sufficient dilution there is asepsis, but in the Hot Springs case we believe there is danger from lack of sufficient dilution.

Visceral Anatomy.

A chair of visceral anatomy has been established in the College of Physicians and Surgeons, Kansas City, Kas., of which Dr. J. W. May is dean. This chair should be established in every medical college and should be filled full. As a rule the young graduate is more deficient in the anatomy of the pelvic, abdominal and thoracic viscera than in any other part of the body, and if he gets a case the chances are that these viscera at some point are at fault and he should be able to tell where and what.

The President's Message.

The laborr of the committee appointed by the American Medical Association a few years ago is bearing fruit. This committee was appointed to secure a member in the Cabinet whose duty should be to look after the health of the nation and advise the President on all matters of public hygiene, such as quarantine, vital statistics, etc. This office to be filled by a physician, representative of the medical profession. The President in his message has advised the creation of such an officer and we can see no reason why Congress should not establish it.

Appendicitis.

More conservatism is urged by surgeons now in appendicitis. A large majority of these cases get well without operating. The safe surgeon is the one who keeps midway between the aggressive cutter and the aggressive general practitioner. In catarrhal appendicitis the rule should be not to operate, but where there is a foreign body in the appendix it should be done. The introduction of a fine long exploratory needle to assist in diagnosis is not so dangerous, we believe, as is commonly supposed, and the ordinary hypodermic needle can be used with safety.

Local Application of Cocaine.

Dr. Holmes, of Cincinnati, said he formerly used a 20 per cent. solution of cocaine locally in the treatment of nasal diseases, but such a strength was dangerous. Many deaths have been reported in using cocaine of this strength. He uses now a 5 per cent. solution as follows: First, he has everything ready for the operation, then he applies a pledget of cotton saturated with the solution of cocaine to the mucous surface to be operated on, and leaves it in contact five or six minutes by the watch. The application is limited to the smallest possible surface. By this means the danger of cocaine poisoning is almost nil because of the limited surface for absorption and the small amount of the drug used, and yet sufficient surface is deadened. The doctor claimed that a large per cent. of headaches were due to nasal complications and its accessory sinuses.

Is This True?

The census of 1850 showed one criminal to every 3,500 inhabitants. The eleventh census shows one criminal to every 786.5 of the inhabitants. The population during the thirty years increased 170 per cent., and criminals 445 per cent. Various reasons can be assigned for this increase in crime in the United States over that of other countries, and among others may be mentioned

the unrestricted emigration. We have as a nation opened our doors and extended our arms to welcome all classes of citizens and we got them. Another factor is certain business and acts considered criminal by our laws that are not so considered by any other nation on earth. By this we mean that there is a higher standard of morality.

Officers Elected.

The officers of the Mississippi Valley Medical Association for the ensuing year are as follows:

President—W. N. Wishard, Indianapolis, Ind.

Vice-Presidents—Dr. Thomas B. Holland, of Hot Springs, and Charles B. Parker, of Cleveland, O.

Secretary—Dr. Frank C. Woodburn, of Indianapolis.

Treasurer—Dr. Harold H. Mayer, of Chicago.

Judicial Council—Drs. W. F. Barclay, of Pittsburg, Pa., and Dr. A. H. Meisenbach, of St. Louis.

Dr. H. O. Walker, of Detroit, the next place of meeting, was selected as chairman of the committee of arrangements.

After Thoughts.

BY P. D. ATRIX.

There is nothing so embarrassing to a man who knows a great deal as the man who knows a very little. The physician of small knowledge is more confident of his own achievements, mere obtrusive in manners, and, I am sorry to say, sometimes has a larger practice than his office partner who really is well posted. This fact may possibly be due to the stupidity of the people, but I would rather believe that the man with limited medical knowledge possesses some element of character, business or social tact which his neighbor lacks.

In every locality there is a physician who, no matter where you meet him, has always just had a very interesting and wonderful case. No case like it on record. Such peculiar symptoms or such unexpected things occur for which he was fortunately just prepared, and the case always recovers. But what a checkmate is this other man who has always had a case just like it, "I know a man in our town" who was never known to miss having had a case similar to one reported. Whether it was a teething baby or a case of hydrophobia his was always just a little worse. They are both valuable in this way: A medical society with two such men among its members need never lack for material for discussion.

Speaking of medical societies, I think every man in the profession should belong to a medical society. Join it, however, for the benefit you may derive from the discussions and the intercourse with other practitioners, rather than the advertising you may be able to do.

Thorough honest work in medical societies always brings a just reward. If you promise to prepare a paper choose a subject you know something about, take plenty of time to prepare it, and do it carefully. Otherwise you will do both the society and yourself an injustice. Your name might become more familiar to the profession if you should always manage to get it on the program, though you are never prepared, and you might possibly create no little wonder in the minds of your fellows should you select such subjects as "Fifteen Consecutive Cases of Intra Uterine Pregnancy," "My First One Hundred and Fifty Hysterectomies," or "A Unique Method of Resuscitation After Twenty-four Hours Suspended Respiration." I say you might create a little wonder, but doctors are not all fools and when they do find you out they don't want any more. "You can fool some of the people some of the time, but you can't fool all the people all the time." The society man who always reads a good paper and is well prepared to discuss it, never fails to make

an impression, but the man who has never had time to prepare the paper he has promised to read, and insists on being continued only to disappoint again, soon becomes a nuisance.

On the other hand I think it is very unjust to assign a paper to a member without first consulting his pleasure in the matter. Many of the failures on the programs are due to neglect in this matter.

I never fancied the combination of politics and medicine, but since we have those amiable gentlemen so clearly distinguished as "political doctors," I would suggest that they cover themselves with everlasting glory by solving the financial problem of the profession. We have three classes of people to deal with, the Good Pay, the Won't Pay, and the Can't Pay. The first and last of these are easily disposed of. We all like to get hold of the first, and no man who has a conscience will refuse tue last. The middle class is the difficult one to manage. Now could some of our political brethren devise a plan by which bills for medical services could be made legal tender for groceries, fuel or office rent they certainly would be appreciated. Since this does not seem to be a very likely solution of the difficulty, I would like to suggest that a very simple way to secure your bills is to present them on the first of each month, and if payment is deferred insist on an acceptance being made for a definite time. Have the bill acknowledged and accepted for payment and you are not likely to have great difficulty in collecting it.

The Germ Theory of Disease.

A very interesting paper on this subject by its very enthusiastic opponent, Lawson Tait, appeared in the *Buffalo Medical and Surgical Journal* of December, 1894. We regret our inability to publish the paper in full, and must satisfy ourselves with a few quotations. He says:

"The germ theory of disease is not a theory at all. It is not even a hypothesis. It is a mere congeries of facts some truly stated, but mixed up with a far greater bulk inaccurately (indeed, untruly stated), upon which not even a working hypotheses has yet been suggested, far less a theory built.

"The facts of the poison origin of certain diseases has always been accepted, but the suggestion of the immediate machinery has, as I have shown, curiously varied. The last suggestion is that of the microbe—he may be displaced by a "smaller flea"; but even if he proves to be the ultimate fact, he is only a fact, nothing more than a fact, certainly not a theory.

"The road by which we went astray in this matter was one that might have been set as a trap. It began in the famous discussion between Pouchet and Pasteur on biogenesis. Pouchet believed, erroneously, that he had discovered life in its cradle, whilst Pasteur made the far more practical discovery of the ultimate (or probably ultimate) facts of decomposition. He did not invent a hypothesis, he did not formulate a theory, and he did not establish a law—all that had been done before—he simply added facts.

"The law of decomposition had long been known; given a solution of organic compounds, maintained at a certain temperature to which the air has access, and they will decompose. Pasteur (and by that name in this research I indicate a host of other names of whom many are perhaps equally important) added the fact that the process was always in the presence of, and on account of the presence of numerous minute organisms having sexual arrangements (unless these had parasitically suppressed) and producing spores. But how absurd it would be to call this contribution of facts by Pasteur (and others) the formulation of a theory, or the establishment of a law.

"It has been my business to follow the researchers on the bacillus of tubercle with great care, because I have objected to a group of cases of abdominal diseases being designated 'tuberculous peritonitis.'

"Opening and draining these cases cures the majority of them; and in the character-

istic 'tubercles' of a great many of my cases the 'bacillus tuberculosis' has been found, while in others it has not. Many of the former have been amongst the recoveries, and some of the latter have been amongst the cases which ultimately died of the advance of the disease. Hence, I conclude that the characteristic bacillus of tubercle (about which I am sure there can be no doubt whatever that it exists) is a product of the disease and not its cause. The experience of abdominal surgery seems to me to admit of no doubt whatever on this point, and it is certainly supported by the facts of the symmetrical and selective location of the disease, of the enormous proportion of cases of it really and permanently cured, of its age periods, its symmetrical distribution, and many other points on which I should like to talk for hours. Not one single fact or observation in the vast array of literature on this subject goes even to support a hypothesis that the bacillus is a *causa causans* of the disease. If it were so how could any of us escape?

"The whole of the phenomena of the tubercle bacillus, as they are known to me, are capable of a very simple explanation, and I advise some of the workers to start a research on this hypothesis: that the tubercle exudation is an unorganized material of feeble vitality (or perhaps like pus, of no vitality at all), and therefore capable of resisting the attacks of the ordinary bacilli of decomposition but feebly, and that the bacillus of tubercle is but a sport of some more ordinary form produced by a fresh soil. This sport may, by reason of constant feeding on appropriate soil, have become possessed, not only of specific form but of specific powers and finally a secondary habitat. All these suggestions are actual and well-known facts in the history of many parasites —such as the fluke. Like the case of the fluke such a supposition would bring into order the climatic and localized increments of tubercle, as at Salisbury; its apparent contagiousness, and most of all its hereditary tendency, which is certainly not a fact that can be brought within the present microbic speculations."

Of the germ of typhus fever he says:

"It is probably the germ of some very ordinary fungus, sporting with deadly growth from the pabulum afforded by the crowd, a suggestion made to me by the late Charles Darwin. At any rate, in this case the fulfilment of Bacon's canon is complete. The phenomenon a population above a certain density, is always present when the effect, typhus fever, is present. It is universally absent when typhus fever is absent; and the effect, typhus, varies in degree with the degree of overcrowding. The phenomenon, overcrowding, is, therefore, the form in question, 'the cause of the given fact or attribute.' Littlejohn's facts and figures prove the law of the appearance and existence of typhus, the law of its variation, and they have established the fact of its extinction. You may as well establish a germ theory for this awful disease as for a leg of cold mutton.

"Not only is the argument from etiology one of the most complete and perfect kind, but it is supported to a most remarkable degree by many clinical facts. Thus Russell, Murchin, Christison and Wilson all agree upon certain facts (and no one has even disputed them) that typhus arises *de novo* upon appropriate provocation. Its germ is, therefore, certain to be a sport, forced by the conditions so well described by Howard, and we should expect that the conditions of sport being removed it would speedily lose its temporary malignity and return to its ordinary and probably quite harmless form. This is entirely supported by the fact insisted upon by all authors, that the contagion of typhus does not carry far, and is completely and speedily killed by cleanliness and an abundant air supply. Murchison lays special stress on the small risk to attendants on the fever-stricken if these conditions are fulfilled.

"All these facts are wholly contradictory of a 'germ theory;' for even if a 'germ theory' were accepted in this case we should immediately point out that the germ was only a temporary existence, and that we have an already well ascertained cause of

its existence. It, therefore, must disappear from the argument, save as a mere stage of a process.

"The facts of no other disease of the zymotic class are sufficiently well known yet to form the basis of complete argument, and we shall not arrive at these necessary facts by mere germ hunting, however interesting and important an avocation it may be.

"Since the time—nearly twelve years ago—when I ran through a sham Listerism, ending with cold water spray, never has anything in the shape of an antiseptic been used in the treatment or dressing of wounds. Yet my published statistics have not yet been either contravened or beaten in their record.

"Lister has admitted these two facts, and has pathetically pleaded that there is something in the abdomen which transcends his chemicals. My answer is, it is not so. The abdomen is the only region yet where we have had competing and perfect statistics. I have challenged Sir Joseph over and over again to produce his operation statistics, but with a lordly indifference, or something else, he pays no attention to the challenge. We are constantly hearing from his followers as to the marvelous improvements in results obtained under each and every new phase of the details as they come out; but before they are six months old they are pronounced failures and something new has its turn. The last of all of these numerous phases is the disuse of all chemical destroyers of germs and the abandonment of 'antiseptic surgery' and the adoption of 'aseptic surgery,' the perfect cleanliness which I have been preaching for years; and, forsooth, this is then the 'newest Listerism.'

"As I look back at my early experience of surgery my wonder is that I ever stuck to it. In Edinburgh, during my pupilage from 1861 till 1866, I saw some thirty ovarian and other abdominal tumors removed without one single recovery, and I left the land of my birth with one fully made resolution, that I would never open an abdomen. In Edinburgh, if I saw an amputation of the thigh in the Old Infirmary on a Wednesday, there was a strong probability that in the following week I would see the bared bone sticking up through the anterior flap.

"If a breast was removed, an erysipelatory reddening of the flaps would very probably occur on the third day and be half way round the chest before the week was out, the wound gaping, and everything going to the bad. Erysipelas indeed was rampant.

"I left Edinburgh and have been engaged continuously ever since, with very slight interludes indeed, in making wounds, till they have mounted up to many thousands, and I have never seen a case of erysipelas in my own practice, not one. This, of course, gives exactly the other side of the picture, and an enormous improvement. It does not in any way belong as a result to chemical germicides, because I don't use them, and never did, save in the few months of the experiment above alluded to.

"In what lies the improvement? The answer is simple; it lies in separation of patients; plenty of cubic space and fresh air."

A TEMPORARY injunction to prevent the Board of Health using any of the $8,000 cholera appropriation was granted by Judge Hazen on the grouud that there had been no threatened invasion of the State by cholera during the year 1894.

THE Topeka Academy of Medicine and Surgery will meet Monday evening December 10, 1894. The subject for discussion will be "Diphtheria."

THE pneumatic tire is the latest addition to the ambulance.

DR. GOODELL, of Philadelphia, died October 27, 1894.